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A TWO-FLUID MODEL FOR SOLAR WIND FLUID WITH HIGHER
ORDER MOMENTS

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ABSTRACT-A spherically symmetric two-fluid model for the solar wind with higher-order moments is presented. In this model, continuity, momentum, temperature and heat flux equations for two components (electrons and protons) in steady solar wind states are simultaneously solved by using a time-dependent method. This work is used to compare solutions of the steady-state solar wind with and without higher order moments and study the effects of thermal conduction. The coupling between electrons and protons is also given special attention. The numerical solutions of the steady-state solar wind in both subsonic and supersonic regions between the sun and 1AU are obtained and graphically illustrated.